The Synthesis and Biological Activity of N-Acylated Amino Acids.
A Collaborative Effort of Distributed Drug Discovery (D3)

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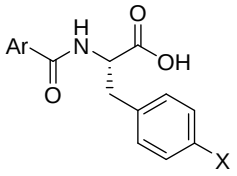
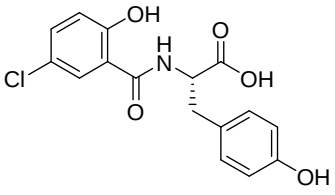
As part of a Distributed Drug Discovery collaborative effort between students at IUPUI and Medical University of Lublin (Poland), the solid-phase combinatorial synthesis of a series of natural, acylated tyrosine (**1)** and phenylalanine (**2**) analogs was carried out in replicated fashion. The crude samples were purified and characterized by LC/MS, proton NMR, and in cases involving novel structures, by proton and carbon-13 NMR and high-resolution mass spectrometry. The samples were characterized in biological assays at the Medical University of Lublin against the Gram-positive bacteria *Staphylococcus aureus* ATCC 25923, *Staphylococcus epidermidis* ATCC 12228, *Bacillus cereus* ATCC 10876, *Bacillus subtilis* ATCC 10876, and *Micrococcus luteus* ATCC 10240. Although activity of the 2-nitro and 3-nitro derivatives of phenylalanine was not reproduced by the IUPUI samples, the 5-chlorosalicylic acid derivative **1g** demonstrated good activity against *M. luteus* (MIC = 62.5 μg/mL) and moderate activity against *S. aureus, S. epidermidis,* and *B. cereus.*



1 X = OH
2 X = H



1g